

AMENDMENTS TO THE CLAIMS

Please amend the present application as follows:

Claims

1. (Previously presented) A method for fabricating a device, the method comprising:
providing a substantially planar substrate having opposed major surfaces, the substrate comprising a through hole extending between the major surfaces;
filling the through hole with a conductive interconnecting element; and
after the filling, forming a conductive die mounting pad and a conductive connecting pad on different ones of the major surfaces in electrical contact with the conductive interconnecting element.
2. (Original) The method of claim 1, in which the providing comprises forming the through hole in the substrate by one of punching and drilling.
3. (Canceled)
4. (Previously presented) The method of claim 1, in which the forming comprises forming the conductive die mounting pad and the conductive connecting pad by at least one of plating, cladding and screen printing.
5. (Original) The method of claim 1, in which the providing comprises:
providing the substrate of unfired ceramic; and
forming the through hole in the unfired ceramic.
6. (Original) The method of claim 5, in which the filling comprising filling the through hole in the unfired ceramic.
7. (Previously presented) The method of claim 6, in which:
the forming comprises forming a seed layer on the unfired ceramic;
the method additionally comprises firing the ceramic; and

the forming additionally comprises forming additional layers on the seed layer after the firing.

8. (Original) The method of claim 7, in which:
the seed layer is formed by screen printing; and
the additional layers are formed by plating.

9. (withdrawn-previously presented) The method of claim 1, additionally comprising attaching a semiconductor die to the die mounting pad.

10. (withdrawn) The method of claim 9, additionally comprising:
providing a packaging device, the packaging device including a conductive mounting surface; and
mounting the device in the packaging device, the mounting comprising attaching the connecting pad to the conductive mounting surface of the packaging device.

11. (withdrawn) The method of claim 9, in which:
providing a substrate comprises providing a wafer of which the substrate constitutes part; and
the method additionally comprises, after the filling, the forming and the attaching, singulating the wafer into individual devices.

12. (Previously presented) The method of claim 1, in which:
in providing a substrate, the substrate additionally comprises an additional through hole;
the method additionally comprises filling the additional through hole with an additional conductive interconnecting element; and
the forming additionally comprises, after the filling, forming a conductive bonding pad and an additional conductive connecting pad on the different ones of the opposed surfaces of the substrate in electrical contact with the additional conductive interconnecting element.

13. (Withdrawn-previously presented) The method of claim 12, additionally comprising attaching a semiconductor die to the die mounting pad.

14. (Withdrawn) The method of claim 13, additionally comprising connecting a bonding wire between the semiconductor die and the bonding pad.

15. (Withdrawn) The method of claim 14, in which:
providing a substrate comprises providing a wafer of which the substrate constitutes part; and
the method additionally comprises, after the filling, the forming and the attaching and the connecting, singulating the wafer into individual devices.

16. (Withdrawn) The method of claim 15, additionally comprising performing electrical testing prior to the singulating.

17. (Withdrawn) The method of claim 15, additionally comprising performing electro-optical testing prior to the singulating.

18. (Withdrawn-previously presented) The method of claim 14, additionally comprising encapsulating the semiconductor die and at least a portion of the major surface of the substrate on which the die mounting pad is located.

19. (Original) The method of claim 1, in which:
providing a substrate comprises providing a wafer of which the substrate constitutes part; and
the method additionally comprises, after the filling and the forming, singulating the wafer into individual devices.

20. (New) A method for fabricating a device, the method comprising:
providing a substantially planar substrate having opposed major surfaces, the substrate comprising a through hole extending between the major surfaces;
filling the through hole with an electrically conductive interconnecting element, the

electrically conductive interconnecting element occupying the entire volume of the through hole; and

forming a conductive die mounting pad and a conductive connecting pad on different ones of the major surfaces each pad being in electrical contact with the electrically conductive interconnecting element.

21. (New) The method of claim 1, in which the electrically conductive interconnecting element comprises tungsten.

22. (New) A method for fabricating a device, the method comprising:
providing a substantially planar substrate having opposed major surfaces, the substrate comprising a through hole extending between the major surfaces;
providing an electrically conductive interconnecting element;
introducing the electrically conductive interconnecting element into the through hole; and

forming an electrically conductive die mounting pad and an electrically conductive connecting pad on different ones of the major surfaces each pad being in electrical contact with the electrically conductive interconnecting element.

23. (New) The method of claim 22, wherein providing the electrically conductive interconnecting element comprises providing a slug comprising an electrically conducting material; and introducing the electrically conductive interconnecting element into the through hole comprises squeezing the slug into the through hole.

24. (New) The method of claim 23, wherein the slug has a diameter that is smaller than a diameter of the through hole, the smaller diameter selected to provide a friction fit between the slug and the through hole.

25. (New) The method of claim 24, wherein the ends of the slug are located approximately flush with the opposed major surfaces.

26. (New) The method of claim 23, wherein the slug comprises tungsten.

27. (New) The method of claim 22, wherein the electrically conductive interconnecting element occupies at least a portion of a volume of the through hole.

28. (New) The method of claim 27, wherein an adhesive is used to hold the electrically conductive interconnecting element in the through hole.